Annual Report of Operations for Year 2019

To comply with NPDES General Permit No. WAG130000 for Federal Aquaculture Facilities and Aquaculture Facilities Located in Indian Country within the Boundaries of the State of Washington

NPDES # for your Facility:
13-0012

Facility & Owner Information

Facility Name:
Bernie Kai Kai Gobin Salmon Hatchery

Operator Name (Permittee):
Tulalip Tribes of Washington

Address:
6406 Marine Drive
Tulalip, WA 98271

Email: mcrewson@tulaliptribes-nsn.gov
Phone: 360-716-4626

Owner Name (if different from operator):
Same

Email: Same
Phone: Same

Best Management Practices (BMP) Plan

Has the BMP Plan been reviewed this year? ■ Yes ☐ No

Does the BMP Plan fulfill the requirements of the General Permit? ■ Yes ☐ No

Summarize any changes to the BMP Plan since the last annual report. Attach additional pages if necessary.
We revised the BMP plans and combined all 3 into a single plan this year.

EPA General Permit WAG130000 - Annual Report

Operations and Production

Total harvestable weight produced in the past calendar year in pounds (lbs): 64,321bs weight gain, 91,703 lbs total biomass

Pounds of food fed to fish during the maximum month:
9,752 lbs feed (March)

List the species grown or held at your facility and the annual production of each in gross harvestable weight. If fish were released rather than harvested, list the weight at time of release.

Species	Fish Produced	Receiving Water(s) to which Fish were Released	Month Released/ Spawned
BY17 Coho	33,284	No release/harvests, fish transferred to 13-0013 for release. * wt = biomass transferred	N/A
BY18 Chinook	30,477	No release/harvests, fish transferred to 13-0013 for release. * wt = biomass transferred	N/A
BY18 Coho	22,519	No release/harvest/spawn. * wt is calendar year biomass	N/A
BY18 Chum	2,419	No release/harvests, fish transferred to 13-0014 for release. * wt = biomass transferred	N/A
BY17 Cutthroat	2,909	Planted est. 3,200 in Ross Lake (Tulalip Reservation)	June 2019

Fill in the table below with production numbers from the past year. List the **maximum** amount of fish on-site and the maximum amount of food fed **per month**.

Month	Total Fish (lbs)	Fish Feed (lbs)	Month	Total Fish (lbs)	Fish Feed (lbs)
January	27,890	2,573	July	10,820	3,717
February	34,313	4,642	August	13,272	4,674
March	42,558	9,752	September	16,705	4,180
April	62,115	6,959	October	22,340	3,916
May	72,714	2,000	November	18,439	4,668
June	63,445	1,962	December	22,519	396

Additional Comments: * Note, NO FISH ARE RELEASED FROM THIS FACILITY (13-0012). ALL SALMON ARE TRANSFERRED TO THE OTHER TWO FACILITIES (13-0013 AND 13-0014) FOR RELEASE.

These are total biomass weights and feed fed, which do not relate to each other. The WEIGHT GAINED for these months (not shown) relates to feed fed, e.g. the yearling coho comprised more than 80% of the production on January 1 .~@ 22,417lbs (1,120,847@50fpp) and is even more relevant for the other two facilities, where the weights gained start with the ending weights shown here and are double counted.

Solid Waste Disposal

Describe the solid waste disposed of during the calendar year (including fish mortalities).

Type of Solid Disposed	Date Disposed	Location Disposed
1,044Lb Adult Chum carcasses	December 2019	Offsite burial pit
90Lb dead eggs (all 3 species)	Sept. - Dec. 2019	Offsite burial pit
250Lb dead fish (all 3 species)	Jan. - Dec. 2019	Offsite burial pit
Additional Comments:		

Fish Mortalities

Include a description and the dates of mass mortalities in the past year (more than 5% per week). Attach additional pages, if necessary. Include total mortalities from all causes.

Date	Cause of Deaths	Steps Taken to Correct Problem	Pounds of Fish
Additional Comments: N/A. No incidents of mass mortality			

Noncompliance Summary

Include a description and the dates of noncompliance events (including spills), the reasons for the incidents, and the steps taken to correct the problems. Attach additional pages, if necessary.

None

Inspections & Repairs for Production & Wastewater Treatment Systems

Date Inspected	Date Repaired	Description of System Inspected and/or Repaired
None needed		

Aquaculture Drugs and Chemicals

Please indicate whether you used each drug/chemical **during the past calendar year**.
Describe the use of each drug/chemical in more detail on the following pages.

Used in the past year?	Drug or Chemical
☐ Yes ☐ No	Azithromycin
☐ Yes ☐ No	Chloramine-T: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Chlorine
☐ Yes ☐ No	Draxxin
☐ Yes ☐ No	Erythromycin - injectable
☐ Yes ☐ No	Erythromycin - medicated feed
☐ Yes ☐ No	Florfenicol (Aquaflor)
■ Yes ☐ No	Formalin - 37% formaldehyde: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Herbicide - describe:
☐ Yes ☐ No	Hormone - describe:
☐ Yes ☐ No	Hydrogen Peroxide: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Iodine: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Oxytetracycline
☐ Yes ☐ No	Potassium Permanganate: ***See additional reporting requirements on page 7***
☐ Yes ☐ No	Romet
☐ Yes ☐ No	SLICE (emamectin benzoate)
☐ Yes ☐ No	Sodium Chloride - salt
☐ Yes ☐ No	Vibrio vaccine
☐ Yes ☐ No	Other:
☐ Yes ☐ No	Other:

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Treatment #1: Parasite S (*)		Generic Name: Formalin (37% formaldehyde)	
Reason for use: External parasite on fish (Ichthyobodo necatrix)			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units): 5L X 1 treatment	Total quantity of formulated product used in past year (specify units): 5L formalin	
Date(s) of treatment: 6/19/19			Total number of treatments in past year: 1
Maximum daily volume of treated water: 7,800 gal	Treatment concentration (specify units): 167mg/L formalin	Duration and frequency of treatment(s): 60 minutes, 1X/day, 1 day total	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	■ Other (describe): * Treated water diluted
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: * Raceway effluent (130 gpm) was captured in sump and pumped into Effluent Pipe E4, which was flowing at 2,092 gpm (a 16.1-fold dilution). The maximum concentration in the effluent was estimated to be 10.4 mg/L formalin (28.0mg/L formaldehyde = active ingredient)			

Brand Name: Treatment #2: Parasite S (*)		Generic Name: Formalin (37% formaldehyde)	
Reason for use: External parasite on fish (Ichthopthirius multifiliis)			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment: 5L X 3 treatments	Total quantity of formulated product used in past year (specify units): 90L (18 treatments)	
Date(s) of treatment: All in 2019: 8/9, 8/11, 8/13, 8/15, 8/17, and 8/19			Total number of treatments in past year: 18 (6 X 3 ponds)
Maximum daily volume of treated water: 30,600 gal (3 raceways X 10,200)	Treatment concentration (specify units): 167 mg/L formalin	Duration and frequency of treatment(s): 60 min/dayX 3 ponds X6 alternating days	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	■ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	■ Other (describe): * Treated water diluted
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: * Raceways treated separately, effluents (170 gpm) captured in sump were pumped to E4 flowing at 1,289gpm (a 7.58-fold dilution). Max conc. in effluent was estimated to be 22.0mg/L formalin			

Aquaculture Drugs and Chemicals (cont'd)

Describe all drug and/or chemical treatments that occurred during the year. Fill out the information below for each drug or chemical, plus page 7 for water-borne treatments. Attach additional pages as necessary.

Brand Name: Treatment #3: Parasite S (*)		Generic Name: Formalin (37% formaldehyde)	
Reason for use: Control fungus on eggs			
☐ Preventative/Prophylactic ■ As-needed	Total quantity of formulated product per treatment (specify units): 2.8-8.5L	Total quantity of formulated product used in past year (specify units): 267.2L formalin	
Date(s) of treatment: 10/1,3,5,7,9,11,13,15,19,21,23,25,27,29,31,11/12,14 ETC thru 1/30,12/2,4,6,ETC thru12/30/19			Total number of treatments in past year: 46
Maximum daily volume of treated water: 3,150 gal	Treatment concentration (specify units): *1,667mg/L formalin	Duration and frequency of treatment(s): 15 minutes, 1X/day, alternating days	
Method of application:	☐ Static Bath ■ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ■ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	■ Other (describe): * Formalin detention tanks
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use: * We reconfigured formalin effluent lines to be diluted >1:100. We did not fill out the flow thru page for these egg treatments because we measured the formalin concentration directly via test strips and bench chemistry & confirmed we're well within discharge limits. Treated effluent was tested in three locations (directly from the incubators, formalin lines from retention tanks, and effluent lines that receive formalin dilution tank lines). Dilution tanks provided ~10-fold dilution, while the effluent lines provided another 22- to 60-fold additional dilution. Ending concentrations were est. ≤ 1mg/L formalin.			

Brand Name:		Generic Name:	
Reason for use:			
☐ Preventative/Prophylactic ☐ As-needed	Total quantity of formulated product per treatment:	Total quantity of formulated product used in past year (specify units):	
Date(s) of treatment:			Total number of treatments in past year:
Maximum daily volume of treated water:	Treatment concentration (specify units):	Duration and frequency of treatment(s):	
Method of application:	☐ Static Bath ☐ Flow-through	☐ Medicated Feed ☐ Other (describe):	
Location in facility chemical was used (check all that apply):	☐ Raceways ☐ Incubation building	☐ Ponds ☐ Off-line settling basin	☐ Other (describe):
Where did water treated with this chemical go? (check all that apply):	☐ Discharged w/o treatment ☐ Settling basin	☐ Septic System ☐ Publicly owned treatment works	☐ Other (describe):
Provide any additional information about how this chemical was used and/or special pollution prevention practices during use:			

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

- If a water-borne treatment was used during the calendar year, Permittees must include detailed records/calculations as an attachment to this Annual Report in order to demonstrate how the maximum effluent concentrations of solution and active ingredient were calculated for each chemical.
- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

For Treatment #1 — Flow-Through Treatments	
Tank Volume	271,843 Liters
Calculated Flow Rate	492 Liters/Minute
Duration of Treatment	60 Minutes
Desired Flow-Through Treatment Concentration of Product	167,000 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	84 mL/Minute
Total Volume of Product Needed	5.0 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: ~10.4mg/L formalin Active Ingredient: 2.7mg/L formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	12,927,230 liters per day Specify Units
Maximum % of Facility Discharge Treated	0.23% % of Total Discharge

Aquaculture Drugs and Chemicals (cont'd)

Additional Reporting Requirements for Water-Borne Treatments

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- EPA recognizes that water-borne treatments may vary in the volume of the vessels treated, concentration, quantity of product, etc. Permittees must provide the information listed in the following tables for a reasonable worst case (i.e., maximum effluent concentration) scenario, not for each individual treatment.
- Permittees must submit this information and calculate the maximum effluent concentration for each water-borne chemical used during the past calendar year.
- See also Appendix D for the Chemical Log Sheet.

Static Bath Treatments	
Tank Volume	Liters
Desired Static Bath Treatment Concentration	µg/L
Volume of Product Needed	Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: Active Ingredient: Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	Specify Units
Maximum % of Facility Discharge Treated	% of Total Discharge

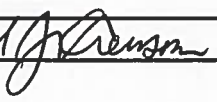
Treatment #2	Flow-Through Treatments
Tank Volume	271,843 Liters
Calculated Flow Rate	644 Liters/Minute
Duration of Treatment	60 Minutes
Desired Flow-Through Treatment Concentration of Product	167,000 µg/L
Amount of Product to Add Initially	0 Liters Product
Amount of Product to Add During Treatment	107 mL/Minute
Total Volume of Product Needed	6.4 Liters Product
Maximum Effluent Concentration of: 1) Solution and 2) Active Ingredient	Solution: 1.0 mg/L formalin Active Ingredient: 0.37mg/L formaldehyde Specify Units
Minimum Volume of Total (treated + untreated) Water Discharged from the Facility per day	8,403,111 liters per day Specify Units
Maximum % of Facility Discharge Treated	1.38% % of Total Discharge

Changes to the Facility or Operations

Describe any changes to the facility or operations since the last annual report.
None

Signature and Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly evaluate and gather the information submitted. Based on my inquiry of the person or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed name of person signing	Title
Michael J. Crewson	Salmonid Enhancement Scientist
Applicant Signature 	Date Signed 1/17/20

Submittal Information

Send the complete, signed information, along with any attachments, to the following address:

U.S. EPA Region 10, OWW-191

Washington Hatchery Annual Report

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Seattle, WA 98101-3140